

1 CLAIMS

2 What is claimed is:

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4 1. A high level disinfecting composition comprising an aqueous solution
5 having a pH less than 7 and which contains a conjugated aliphatic
6 dialdehyde in an amount effective to achieve high level disinfection as
7 determined by the ability of said composition to kill all bacterial cells and
8 spores in contact with said composition when exposed to said composition
9 for a time and at a temperature sufficient to exert its biocidal effect.

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11 2. A high level disinfecting composition comprising an aqueous solution
12 having a pH less than 7 and which contains an amount of conjugated
13 aliphatic dialdehyde effective to achieve high level disinfection as
14 determined by the ability of said composition to kill all microorganisms in
15 contact with said composition within 30 minutes at 20⁰C.

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17 3. A high level disinfecting composition of claim 2 wherein the bacterial cells
18 are *Mycobacterium bovis* BCG.

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20 4. A high level disinfecting composition of claim 2 in which the conjugated
21 aliphatic dialdehyde has less than 8 carbons and at least one aldehyde
22 group adjacent to a double bond.

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24 5. A high level disinfecting composition of claim 2 in which the conjugated
25 aliphatic dialdehyde is 2-butenedial.

1 6. A high level disinfecting composition of claim 2 which further comprises
2 surfactants, glycols, corrosion inhibitors, antioxidants, sequesterent, odor
3 suppressants, dye and fragrance.

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5 7. A method for disinfecting a surface which comprises immersing said
6 surface in and maintaining said surface in contact with the high level
7 disinfecting composition of claim 1 for a period of time and at a temperature
8 effective to achieve high level disinfection of said surface.

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10 8. The method of claim 7 wherein the 2-butenedial concentration in said high
11 level disinfecting composition is between 0.5 and 2.0 weight percent.

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13 9. The method of claim 7 wherein the 2-butenedial concentration in said high
14 level disinfecting composition is estimated to be between 0.1 and 0.5
15 weight percent.

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17 10. A sterilizing composition comprising an aqueous solution having a pH less
18 than 9 and which contains an amount of conjugated aliphatic dialdehyde
19 effective to sterilization as determined by the ability of said composition to
20 kill all micro-organic spores in contact with said composition within 32
21 hours at 20⁰C.

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23 11. A sterilizing composition of claim 10 wherein the micro-organic spores are
24 that of *Bacillus subtilis* and *Clostridium sporogenes*.

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1 12. A sterilizing composition of claim 10 in which the conjugated aliphatic
2 dialdehyde has less than 8 carbons and at least one aldehyde group
3 adjacent to a double bond.

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5 13. A sterilizing composition of claim 10 in which the conjugated aliphatic
6 dialdehyde is 2-butenedial.

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8 14. A sterilizing composition of claim 10 which further comprises surfactants,
9 corrosion inhibitors, antioxidants, sequesterent, odor suppressants, dye and
10 fragrance.

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12 15. A method for sterilizing a surface which comprises immersing said surface
13 in and maintaining said surface in contact with the sterilizing composition of
14 claim 8 for a period of time and at a temperature effective to achieve
15 sterilization of said surface.

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17 16. The method of claim 15 wherein the 2-butenedial concentration in said
18 sterilizing composition is less than 2.0 weight percent.

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20 17. The method of claim 15 wherein the 2-butenedial concentration in said
21 sterilizing composition is about 0.5 weight percent.

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